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*on **1 Oct 2007; 11:01 UT***
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The neutron-star LMXB SAX J1810.8-2609 has been frequently observed by INTEGRAL over the last weeks. After the onset of hard X-ray activity as seen by Swift on Aug. 6-9 (ATel#1175), and by INTEGRAL on Aug. 19 (ATel#1185), the source was covered by the Galactic Bulge Monitoring Programme (Kuulkers et al. 2007, A&A 466, 595) and in the INTEGRAL Key Programme of the Galactic Center. The light curve of the last 2 weeks shows a gradual brightening, which peaked on 2007-09-21T06:01 UTC with a source flux of about 83 mCrab and 60 mCrab in the 20-40 keV and 40-80 keV band, respectively. In addition, the JEM-X1 lightcurve shows a type I X-ray burst lasting about 40s on 2007-09-24T19:53:06 with a peak flux of 1.3 Â± 0.2 Crab and 1.1 Â± 0.3 Crab in the 3-10 keV and 10-20 keV band, respectively.
Analysis of IBIS/ISGRI data using INTEGRAL's latest Offline Standard Analysis package OSA 7, shows that the spectrum above 18 keV is best represented by a Comptonization model following Titarchuk 1994 (compTT), rather than by a single power law, except for the short observation on September 21, where a single power law is sufficient. As the compTT model is not well constrained in some cases, we fix the electron seed temperature to T0 = 1 keV in all cases and fit the plasma temperature (kT) which we report below. In addition, we apply a single power law model with photon index Γ in order to give a hint for the spectral slope evolution.

The spectral evolution over the last weeks appears as follows (flux in 10^{-10} erg cm^{-2} s^{-1}):

rev.	UT start	exp. time	flux (20-40 keV)	kT [keV]	photo
600	2007-09-12T01:25	185 ks	2.2 Â± 0.3	32	2.11

601	2007-09-15T01:09	173 ks	3.5 Â± 0.4	25	2.17
602	2007-09-18T05:01	11 ks	3.4 Â± 0.9	14	2.1
603	2007-09-21T04:10	12 ks	6.0 Â± 0.5	56	2.3
604	2007-09-24T00:34	203 ks	3.6 Â± 0.3	49	2.44

This is the longest lasting and brightest outburst of this source observed so far by INTEGRAL. INTEGRAL continues to observe the Galactic Center region since September 30, 2007.

Additional material (images, spectra, and lightcurves)

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